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AUTHOR Dockrell, W. B.
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ABSTRACT

With the advent of profiling and maintaining records of achievement, the assessment of the affective characteristics of pupils has become an issue of general concern in England. The Scottish Council for Research in Education has been involved in programs investigating the assessment of individuals and the evaluation of curricula. Teachers can evaluate the impact on attitudes of their courses by using straightforward techniques. Both parents and teachers want assessments of affective characteristics to be used for two purposes: (1) formative evaluation during the course of education; and (2) summative evaluation at the end of schooling. The Scottish Headteachers sought to improve the accuracy of individual assessments in a number of ways. The first issue that the team tackled was the simplification and clarification of the characteristics to be assessed. A description of two studies illustrated two systems of assessments. The second issue that the Scottish team approached was the accuracy of individual assessments. Teachers working with the team wanted to record and report affective qualities at different levels. Statements of actual behavior observed by teachers, anchored in scales defined by crucial indices, were found to be both accurate and fair as assessments of individuals. (BAE)

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TECHNICAL ISSUES IN THE ASSESSMENT OF AFFECTIVE CHARACTERISTICS

W. B. Dockrell
University of Newcastle upon Tyne, England

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INTRODUCTION

The assessment of the affective characteristics of pupils has become of general concern in England with the advent of profiling and records of achievement i.e. formal reports by the school both during schooling and as a final leaving certificate which include not only marks in academic subjects and cross curricular skills but also personal qualities. The Departmant of Education is currently funding a number of pilot projects and an extensive evaluation across the country with a view to making such reports universal in the early nineties.

Assessing, recording and reporting affective characteristics is of course not new in English schools. One of the distinguishing marks of the English school system by contrast with most other European systems is the degree of pastoral responsibility accepted by the schools. English teachers have therefore been making these assessments of their pupils and reporting them to parents, using them in references or to complete forms from prospective employers for many years but usually up to now in an informal unstructured way. Ingenkamp's strictures on this traditional approach "At the moment we have the disquieting situation in which teachers make their judgments like amateurs in the field of those objectives which are often regarded as the most important; and are subject to all those prejudices, stereotypes, distortions, etc. to which all people are exposed when they have only their common sense to rely on" (Ingenkamp, 1977) may seem harsh but in many cases are all too accurate

Profiling has given prominence to the assessment of individual pupils but specific curricula and particular school systems also have affective aims. In the case of curriculum a current British example is the major government funded programme the Technical and Vocational Education Initiative. It is concerned with attitudes as well as skills and must be judged by the extent to which it fosters "enterprise" as well as by increased knowledge of the role of technology in modern society. There are both national and local evaluations of these developments and at least one of them is having considerable difficulty in coming to terms with the affective aims of the iniative. There have of course been British evaluations which have addressed themselves to the affective outcomes of educational programmes(Brown 1976. Harlen 1976) but they have been relatively few.

School systems too have affective aims. The case was most eloquently put in a Scottish report on the curriculum of the secondary school. " "In educating young people it seems irresponsible to ignore their emotional and moral natures, or to assume that the educational process

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should not concern itself with their attitudes and values....We believe, therefore, that schools should seek to contribute to the development of such dispositions as the following: to be concerned for other people and to show compassion for them; to be capable of co-operating and forming relationships with them; to be tolerant and fair; ... to be resourceful, self reliant and hard-working" and so on.(Scottish Education Department 1977). When the same report went on to make recommendations about the curriculum it spoke in terms of subjects, English, Maths, Science and so on. The committee had apparently forgotten all about the high minded aims that it laid down in its early chapters. A programme that has arisen from that report is called Scoial and Vocational Skills. The Developmnent Unit responsible for the preparation of the course materials has given some consideration to the fostering and assessment of attitudes but so far it has not incorporated any of this approach in its recommendations.

It is possible to assess affective education at a national level as Torney and her colleagues demonstrated(Torney, Oppenheim and Farnon 1975). Yet the assessment of the affective outcomes of education was dropped from the programme of the Assessment of Performance Unit (the English equivalent of NAEP), thus omitting one of the aims of education.

My former colleagues at the Scottish Council for Research in Education have been involved in programmes which have involved working with groups of teachers in both areas, the assessment of individuals and the evaluation of curricula.

EVALUATING CURRICULA

An example of evaluation of the affective outcomes of a programme is the work of two groups of Geography teachers. What they wanted was an indication of the general effect of a month long unit. They wanted to know whether, in the terms of the report quoted above they, had indeed made their pupils more "concerned for other people" and more likely "to show compassion for them"(S.E.D 1977).

This work has been reported(Black and Dockrell 1984) so only a summary is presented here sufficient to illustrate the proceedure

Each group of teachers prepared a questionnaire designed to assess the attitudes of their respective classes. Because they wanted to assess the effect of their teaching they gave the questionnaires to their classes before and after the unit and so were able to measure change.

The questionnaire prepared by the first group of teachers told the pupils to "imagine that your class has collected £20 to donate to charity. The money is to be given out in £5 units. Using the list of charities below, show how you would distribute your donations by putting one tick under each £5 opposite the charity of your choice" The charities included cancer research, sports equipment for the school and Help the Aged as well as a range of third world charities. The questionnaire was administered to a year group of more than 200 pupils.

Even before the unit was taught, third world charities were attracting a great deal of sympathy from the pupils. 79% of them had said that they would wish to contribute to health clinics for the third world. The provision of clean water had attracted the support of 71%. After the unit had been taught support for these causes went up to 85% and 84% respectively. Inevitably support for some other causes had to come down.

The questionnaire prepared by the second group of teachers was a little more complex. In this case the pupils were told "a world banking organisation has set up a world cities improvement fund. Money is to be given to projects aimed at improving the quality of life in the cities of the world." Two cities were described. One of them was called Slumsville, USA and the other Shanty Town, India. The instructions went on "the projects listed below are designed to help the two cities, decide which projects are the most urgent. Put them in order of importance in the boxes below." The projects included modernisation of old houses in Slumsville, clean water supplies for Shanty Town and restoring the ancient temples in Shanty Town. The three most popular causes before the unit was taught were all from Shanty Town, health clinics, clean water and helping the people to build their own simple houses. 94% of pupils had put at least one of these among their top three. That went up slightly to 96%.

The teachers had an answer to their question. They had influenced their pupils attitudes to the third world and not in a vague undifferentiated way. There was a cognitive component too, which showed a greater realisation of the importance of clean water and medical services. They had achieved both cognitive and affective objectives, greater understanding and greater sympathy. But the teachers had learned something else. The children were already very sympathetic to the third world, even before Bob Geldof, Bandaid and Sportaid. They could now ask whether their attempts to influence those attitudes was necessary. Perhaps their time could be more effectively spent in some other way. The crucial point is that teachers can obtain an adequate indication of their impact on attitudes by using relatively straightforward techniques and can obtain information that may lead them to rethink their teaching.

ASSESSING INDIVIDUALS

The affective outcomes of particular curricula, of the programme of an individual school or of a school system may be the important questions for education generally but teachers find the assessment of individual pupils a more pressing issue. Some teachers are reluctant to make assessments of their pupils affective characteristics though most accept both that schools have a role in the affective development of pupils and that teachers have a responsibility for assessing and reporting in this area(Forsyth and Dockrell 1979). Parents too believe that schools have a role in the affective development of their children and that they should receive reports on behaviour; on attitudes such as effort, enterprise, interest and cooperation; and on some aspects of personality

for example shyness and friendliness. They also think that these assessments should be used for references to prospective employers. (McKay and Dockrell 1983)

Both parents and teachers then want assessments of affective characteristicsto be used for two distinct purposes, the first formative during the course of education and the second summative at the end of schooling. Bloom, Hasting and Madaus(1971) assert that "although it may not be good practice to assign a summative grade for affective behaviour , it is often desirable to evaluate a student's affective behaviour formatively. Such an evaluation is diagnostic in that it can indicate to the student his progress towards the attainment of such outcomes. The point is however, that feedback to the student not the assignment of a grade should be the purpose of making a formative evaluation of affective objectives." The initial emphasis in Britain was on the final report. (Dockrell and Broadfoot 1979, Swales 1978) but more recently there has been an increasing recognition of the value of formative assessments. (Stratton 1983)

A major issue in Britain is whether the reports should be structured or unstructured. Should guidance be given to pupils or teachers about what is to be included or should there simply be an invitation to record whatever activities or personal qualities they wish? An openended personal record allows for diversity among individuals and imposes no constraints upon schools or individual teachers. The final report can reflect more fully the achievements of any individual than can a structured report. Openendedness and structure can, however, be combined. The Scottish Headteachers(Dockrell and Broadfoot 1977) recommended both the inclusion of a structured report and provision for an open record. Structured reports are more comparable and it is to these that the Scottish team has addressed most of its efforts.

Whatever the purpose of the assessment, formative or summative, no matter who it is made by, pupils as self assessment or teachers, inaccurate assessments will only mislead. The Scottish team tried to improve the accuracy of assessments in a number of ways.

The first issue that the team tackled was the simplification and clarification of the characterisitcs to be assessed. Any initial list is likely to be too extensive to be usable and to include items which overlap. It will therefore need to be simplified.

A department in one school was usuing a system that assumed five independent traits. Each trait was assessed by reference to a set of descriptive statements, twenty five in all. The research team analysed their assessments using factor analysis. A number of rotations were made. The first was a principle components varimax rotation. This most nearly met the teachers' assumptions that each statement belonged exclusively to a separate designated trait. The second analysis sought a factor structure that corresponded to the teachers' hypothesised factors to see whether their groupings could be obtained reasonably satisfactorily from the intercorrelations. Three oblique rotations were made with a primarily heuristic purpose, to see whether a plausible

set of traits might be obtained that were not independent but were intercorrelated.

None of the factor analyses reproduced the teachers groupings. The teachers' five assumed traits were not measured by the assessments that they made. The oblique rotations were not very helpful. They grouped the items in what appeared to be rag-bag factors which could only be labelled "goodness" or "badness". In the other factor analyses two factors emerged, "confidence/leadership" and "dependability" (or less flatteringly "conformity" or "docility"). This latter factor included much of what teachers call general class behaviour and perseverance. What they were assessing under those headings went so closely together in their actual assessments that the teachers were in effect treating tham as a single trait(Dockrell and Black 1980)

A later study carried out in another school(Black and Dockrell 1980) included the whole of a year group(n 356) and all the teachers teaching those pupils(n 70). These teachers did not begin with an assumed set of traits. Instead it was decided to cover as wide a range of affective characteristics as possible so that the assessments would be useful both for guidance and teaching purposes. They also wanted a smaller set of variables for reporting.

Again the teachers' assessments were factor analysed by the research team. The analyses were made by subject. The hypothesis was that in Scotland where schools are organised by subject department, with a highly differentiated subject specific curriculum and with teachers permitted to teach only the one or two subjects for which they are qualified that there might well be differences between departments in the characteristics developed and assessed. Bacon's well known aphorism about the effects of different disciplines might apply in the affective if not in the cognitive domain especially when the departments making the assessments included not only Bacon's mathematics and English but aethetic subjects like art and music and activities like physical education and outdoor studies.

Each teacher was given the full list of twenty seven characteristics and asked to indicate which of these they felt most appropriate to assess in their own subject and to add any that they felt had been omitted. Each department examined their own responses and arrived at a consensus about what would be an appropriate subset for them. The teachers then made the assessments. As in the previous study they were factor analysed by the research team. The analyses were made department by department.

There were two factors running across all departments which were labelled "conscientiousness/perseverance" and "confidence". In addition there was in some departments an additional small factor. The history teachers seemed to be assessing "originality". Chemistry and physical education(boys) teachers were assessing "willingness to share". In physics the additonal factor was "relationships with peers" and in business studies it was "attentiveness". These factors were all small and might not be stable. The factor patterns of individual teachers however, seemed to be largely congruent with those of their departments

While they might reflect the emphases of different subjects, for example attentiveness in the case of business studies , or the concerns of different departments, for example willingness to share in the case of physical education, it is equally possible that, if they exist at all, they reflect the idiosyncracies of individuals or small tightly knit groups.

The findings from these two studies were not surprising. The earlier analyses of the data obtained in the Pupils in Profile study had suggested that most of the variance in those assessments of affective characteristics could be explained by two major factors which were labelled "perseverance" and "enterprise".(Dockrell and Broadfoot, 1977) Other researchers had found much the same. Greaney(1974) had found four factors but the two major ones "satisfactory classroom behaviour" and "group leadership" accounted for 38% of the variance. Airasian, Kellaghan and Madaus(1977) reported that in each of four related studies two factors, a classroom behaviour factor and a social behaviour factor accounted for 75% of the variance. Others have reported similar findings.(Hallworth and Morrison 1964, Ingenkamp 1979, Morrison, McIntyre and Sutherland 1965) It was put best by Hope(1977) who in his analysis of the Scottish mental survey data found two factors very similar to those reported by other researchers, which he said discriminated between "even tempered plodders" and "pushful innovators".

These findings are perhaps best understood in terms of "implicit personality theory" first proposed by Bruner and Tagiuri(1954) and later developed by Jackson and his associates(Jackson, Chan and Stricker 1978) Observers make inferences about the personal attributes of others and act on these inferences. This implicit theory does not necessarily tell us about the psychology of human personality but about the naive implicit personality theory of an individual or in this case of a group What the factor analyses have tried to do is to make explicit the implicit theory lying behind teachers' assessments. If this interpretation is correct teachers currently act on a limited number of dimensions of personality even when a large number of assements are made. Increasing the apparent range of assessments does not increase the range of aspects of pupils actually reported.

It does not follow that assessment of affective characteristics of pupils should be restricted to these two dimensions even though teachers assessments currently are limited in this way. It does however mean that a decision has to be made either to accept that teachers assessments are limited and to work with only these two dimensions or to try to expand the range. This latter option would presumably require an extensive programme of training. What is clear is that it would be foolish to set up an elaborate system and to assume that a large set of assessments is producing a correspondingly large amount of information. That does not appear to be the case. The Headteachers' Association of Scotland when it received the Pupils in Profile report decided to recommend that the affective part of the profile should consist only of two dimensions. When the reports of the English experiments are available educators there will be faced with the

same decision, either a limited and justifiable set of dimensions or a more extensive set of categories which give a spurious impression of greater comprehensiveness. Whether the third option, training, is viable remains to be demonstrated.

The next issue is the accuracy of the individual assessments. One approach is to make the assessments and reports descriptive and not judgmental. The proceedure followed in the studies reported above involved the use of crucial indices(Black and Dockrell(1980). Flanagan(1956) developed a critical incident technique which was used subsequently as a means of creating performance records in industry(Flanagan, Miller and Burns 1955), as a teacher recording system for personal and social development programmes(Flanagan 1956) and as a parental system for child observation(Flanagan, Pumroy and Tuska 1966). In his "Teachers' Guide to Social and Personal Development"(1956) Flanagan says "teachers should not be expected to write down everything a child does... Briefly, (the critical incident method) involves noticing what the children do during the course of the school day, and singling out those activities which are indicative of strengths or weaknesses in a crucial area of personal or social behaviour".

Flanagan's system requires teachers to keep a written record of pupils' behaviour over a period of time. This focus on observing and recording behaviour is the key to an accurate report. The record need not of course be compiled by a teacher or other supervisor it can be a self report. Flanagan's technique was modified by the Scottish team. This modification was called crucial indices to distinguish it from Flanagan's original but also to recognise its derivation from his work. The Scottish modification of Flanagan's technique involved observing pupil behaviour in the classroon, the laboratory, the gymnasium, the field study centre or on the playing field, selecting those examples of behaviour that were thought to be crucial indicators of the chosen characteristics at a particular level, reaching agreement about which behaviours were indeed crucial and using them as bench marks, refernce points, for future observations.

It is worth noting at this point that all the groups of teachers that the Scottish team worked with wanted to record and report affective qualities at different levels. They did not think that pupils either did or did not display "enterprise" or "persistence" but that all pupils were more or less enterprising or persistent. They wanted to recognise in their reports that all pupils exhibited the desired characteristics to some extent but also the extent to which they exhibited them. They assumed in other words that the characteristics to be observed and reported were on a continuum. Indeed the very notion of progress implies a path that pupils move along.

An example of the use of this technique is found in an early study where a Technical Studies department of seven teachers had wanted to asses four pupil characteristics including "effort". They had been using a subjective one-to-six scale from "good" to "bad" but wanted to improve inter-rater and rater-rater consistency. To do this they had to agree what was meant for example by "Effort 4".

Each teacher was asked to write down independently examples of behaviour that they had observed which they thought exemplified each of the four characteristic at each part of the scale. Table 1 lists some of the statements that the teachers made for effort. Some of these statements are judgments for example "Does not waste time talking", others are generalised descriptions like "A pupil who is prepared to work steadily from the begining of the period to the end", but some are reports of actual behaviours like "Voluntary preparation for practical work done at home, e.g. drawings etc.".

Insert table 1 about here

All the statements were randomised and returned to the teachers with the instruction to allot, again independently, each of them to the characteristic and level that they thought appropriate. The purpose was to achieve a common understanding of the meaning of the terms and levels. Many of the statements were differently categorised by the teachers and were discarded. Others were eliminated because they were not descriptions of actual behaviours. Some were deleted because they were very similar to others. Only seven of the eighteen statements in Table 1 survived this review. The gaps were mainly in the middle. It was easier to agree on examples of extreme behaviour than to find those which discriminated among the middle grades. The teachers were therefore asked to repeat the exercise until there were a number of examples for each point on the scales. This iterative proceedure was also used in the other Scottish studies to arrive at agreed reference behaviours for each level of the chosen characteristics.

Table 2 gives examples of the descriptors of Effort that the teachers used to make their assessments. The statements did not comprise a comment bank but were exemplars. The teachers did not search for these specific behaviours in every pupil rather they used the statements to provide an agreed definition of the characterisitics and of levels. They provided a set of anchor scales.

Insert table 2 about here

The teaching in this department was so organised that some pupils were being taught by more than one of the teachers in different class groups and Teacher 5 was teaching two groups that included some of the same pupils. The teachers assessed all pupils so there were two assessments for some pupils. Table three shows the mean difference in the assessments made of individual pupils by pairs of teachers and in the case of Teacher 5 the mean difference in the assessments of those pupils that he assessed twice. Of the fourteen cases where groups were assessed more than once, in only five instances was the mean difference in excess of one point. Some variabiltiy in pupil behaviour with different teachers might be expected but some of the inconsistency remaining in the assessments is presumably attributable to disagreements among the teachers. Inter-rater reliability is however remarkably high. The difference between the two sets of assessments made by Teacher 5 might also arise from some small variability in the behaviour of the pupils in the two situations but is more likely to be

attributable to inconsistency in the teacher's assessments. In either case intra-rater reliability in the case of this teacher is very high. The teachers themselves reported that the use of crucial indices represented a considerable improvement on their previous practice.

Insert Table three about here

Statements of actual behaviours observed by teachers or reported by pupils anchored in scales defined by crucial indices are both accurate and fair. They provide a sound basis for the formative use of assessment during the course of schooling. If they are used for summative purposes they recognise that the behaviour reported occured in the rather special situation of the school and make no claim to easy generalisability to the entirely different circumstances of tertiary education, the training centre or the workplace.

CONCLUSION

The current experiments with profiles and records of achievement in England have faced many schools for the first time with the issues that are involved in the assessment of affective characteristics. Schools are under pressure to institute practices that will have long term consequences for pupils, for schools' commitment to the broader aims of education, for pastoral systems and not just for reporting. It is important that they at least give consideration to the solutions that other teachers have found to the problems that face them.

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TABLE 1

ACTUAL BEHAVIOURS OFFERED BY TEACHERS AS EXEMPLARS OF EFFORT

A pupil who is prepared to work steadily from the beginning of the period to the end

As soon as one process/job is completed the pupil is eager to get on with the next one.

Does not get put off by awkward or difficult problems, works them out and sees the job through to completion

Tends to engage in window gazing

Very seldom asks questions

Voluntary preparation for practical work done at home, e.g drawings

A pupil is given a task to perform and works at it until it is completed

Always reluctant to start work

Requires constant prodding

Starts work willingly, is reluctant to finish

Does not waste time talking

Gives up easily when faced with a problem

Doesn't waste any time

Slow

Enthusiastic

An eager beaver who is not put off by awkward or difficult situations

A real plodder who does not give up easily

Continues to work even when faced with a difficult task

TABLE 2
AGREED EXEMPLARS OF EFFORT

1	As soon as one process/job is completed the pupil is eager to get on with the next one Does not get put off by awkward or difficult problems, works them out and sees the job through to completion Voluntary preparation for practical work done at home, e.g drawings Makes attempt to continue working withtout further instruction
2	Works steadily Works well in class when given a job to do
3	Works erratically, sometimes eager and keen, at other times lazy If a certain job really interests him he will work hard, but if the job in hand does not appeal very little effort is applied
4	Interest wanes if success is slow to come Easily satisfied with an inferior job
5	Requires constant prodding Spends too much time window gazing
6	Even when pushed this pupil will look for excuses to stop work Will actually destroy or "lose" an item of work rather than attempt to complete it

TABLE 3

MEAN DIFFERENCE IN SCORE FOR GROUPS ASSESSED TWICE

Teacher	1	2	3	4	5	6	7	x
1	-	0.78	1.12	1.00	-	0.73	-	0.91
2	0.78	-	0.90	0.75	0.33	-	0.00	0.55
3	1.12	0.90	-	-	1.11	1.25	-	1.10
4	1.10	0.75	-	-	-	-	-	0.88
5	-	0.33	1.11	-	0.67	1.28	0.67	0.81
6	0.73	-	1.25	-	1.28	-	1.25	1.13
7	-	0.00	-	-	0.67	1.25	-	0.96